

# Model Programs of Study Guide: Architecture, Construction, & Energy



## ORIENTATION / INTRODUCTION Grades 9-10

## SKILL DEVELOPMENT Grades 10-12

## CAPSTONE / ADVANCED Grades 12

## POSTSECONDARY COURSES + Recommended 1st Year

- CAREER FOCUSED COURSES**
- Construction Trades & Energy Technicians
  - HVACR & Weatherization
  - Architecture & Surveying
  - Construction & Energy Management
  - Engineering: Refer to the Manufacturing & Engineering Model Programs of Study

<p>Computer Applications for Business</p> <p>Intro to Technology, Trades, and Engineering or Intro to Engineering Design</p>	<p>Construction Trades I (w/ Geometry in Construction)</p> <p>Introductory CAD</p>	<p>Construction Trades II &amp;/or Electrical Trades I / II</p> <p>HVACR I / II or Beginning Welding</p> <p>Civil Engineering and Architecture</p>	<p>Apprenticeship Training or Certificate Course Sequence</p> <p>Apprenticeship Training or Certificate Course Sequence</p> <p>AAS: AAS Course Sequence or AA/AES: GECC</p> <p>AAS Course Sequence</p>
<p>Construction Trades I (w/ Geometry in Construction)</p> <p>Intro to Business</p>	<p>Intro to Management or Financial Accounting</p>		

Courses and Work-Based Learning Address the PWR Act Recommended Essential Employability Competencies

## WORK-BASED LEARNING

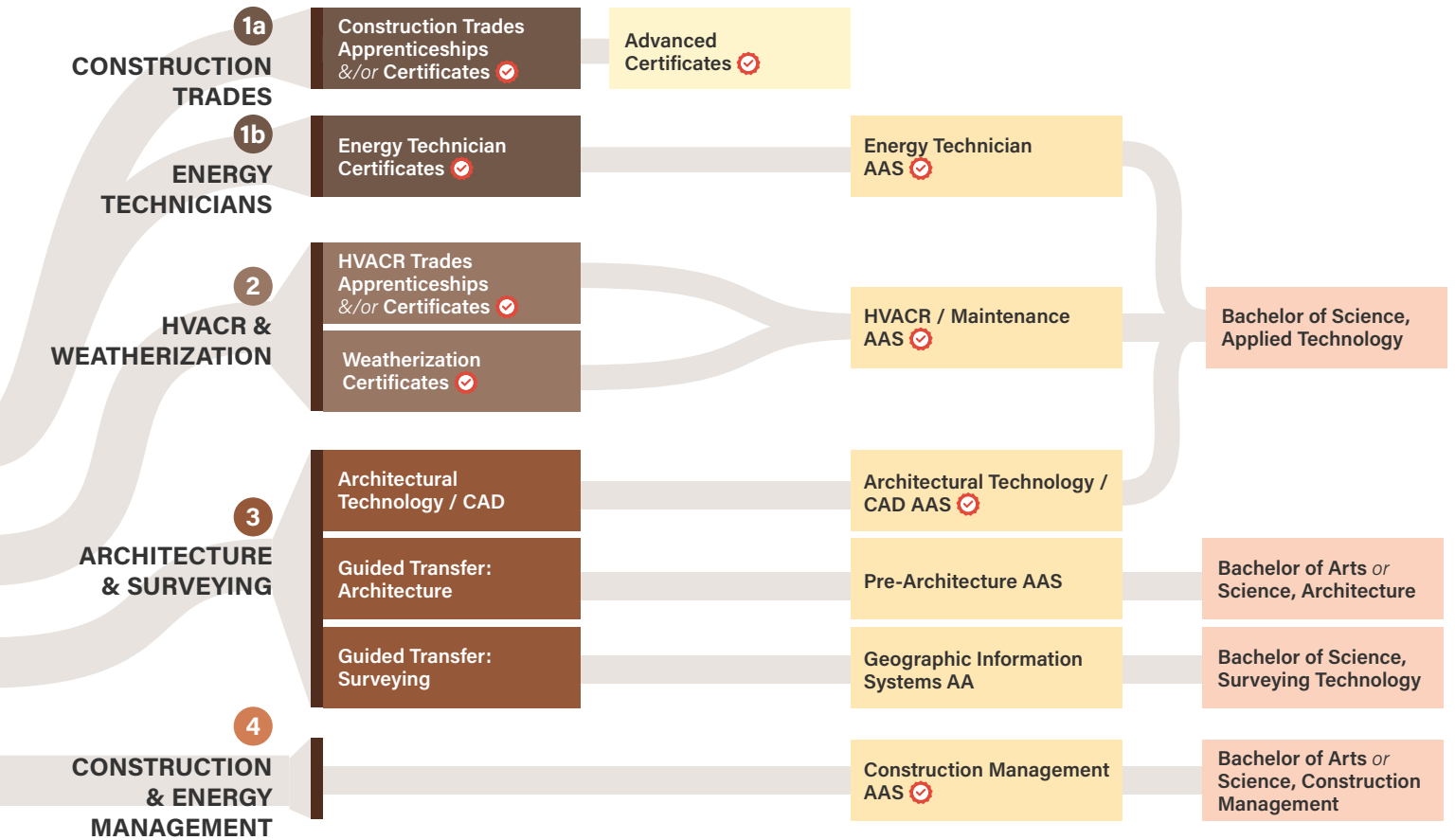
<p>Career Exploration (2) * Team-Based Challenge *</p>	<p>Team-Based Challenge * Career Development Experience or Youth Apprenticeship</p>	<p>Team-Based Challenge Career Development Experience or Apprenticeship</p>
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\* May be offered through Career and Technical Student Organizations (CTSOs) including SkillsUSA Illinois and Technology Student Association (TSA)

- SCIENCE**
- SOCIAL SCIENCE**
- MATH**
- Trades, Technicians, HVACR
- Other Pathways
- ENGLISH**

<p>Science Sequence</p>	<p>Science Sequence AP Physics</p>	<p>Science Sequence Survey of Renewable Energy</p>	<p>Science Sequence</p>
<p>Social Science Sequence</p>	<p>Social Science Sequence</p>	<p>Social Science</p>	<p>Social Science</p>
<p>Algebra/Geometry (Geometry in Construction)</p>	<p>Geometry (Geometry in Construction)/Algebra 2</p>	<p>Technical Math Transitional Math: STEM</p>	<p>Technical Math College Algebra</p>
<p>Algebra/Geometry (Geometry in Construction)</p>	<p>Algebra 2/Pre-Calculus</p>	<p>College Algebra AP Calculus AP Stats</p>	<p>College Algebra/Trig Calculus</p>
<p>English Sequence</p>	<p>English Sequence</p>	<p>AP Language &amp; Composition English Composition I &amp; II</p>	<p>English Composition I &amp; II</p>

## POSTSECONDARY OPTIONS



## SELECTED OCCUPATIONS, WAGES, & JOB GROWTH

Program	Typical Job	Near or Above Living Wage Threshold for 1 Adult + 1 Child <sup>1</sup>	Median Hourly Wage <sup>2</sup>	Growth in IL: Annual Job Openings <sup>2</sup>	Growth in IL: % Change Over 10 years <sup>2</sup>	Stackable?
1a Construction Trades	Construction Carpenters	Y	\$33.22	3,250	6%	Not Typically Stackable
	Electricians	Y	\$39.17	2,580	7%	
	Pipefitters & Steamfitters	Y	\$43.85	2,160	14%	
1b Energy Technicians	Electrical Power Line Installers & Repairers	Y	\$43.49	310	11%	Typically Stacks to Related Bachelor's Programs at Select IL Universities
	Wind Turbine Service Technicians	Y	\$25.76	170 <sup>3</sup>	57% <sup>3</sup>	
	Solar Photovoltaic Installers	N	\$21.58	720 <sup>4</sup>	20% <sup>4</sup>	
2 HVACR & Weatherization	Heating & Air Conditioning Mechanics & Installers	Y	\$27.52	800	13%	
	First-Line Supervisors of Mechanics, Installers, & Repairers	Y	\$33.55	1,390	7%	
	Weatherization Installers & Technicians	Y	\$26.42	170	9%	
3 Architecture, CAD, and Surveying	Architectural & Civil Drafters	Y	\$30.20	240	5%	Typically Stacks to Related Bachelor's Programs at Most IL Universities
	Architects	Y	\$38.06	390	0%	
	Surveyors	Y	\$33.89	90	6%	
4 Construction & Energy Management	Construction Managers	Y	\$43.59	960	7%	Typically Stacks to Related Bachelor's Programs at Most IL Universities
	Cost Estimators	Y	\$32.04	740	9%	
	Energy Auditors	Y	\$36.81	5,570	7%	

1. Living wage calculations are based on: Glasmeier, Amy K. Living Wage Calculator. 2020. Massachusetts Institute of Technology. [livingwage.mit.edu](http://livingwage.mit.edu). As of January 2021 for the state of Illinois, the "Living Wage" for 1 Adult + 1 Child equaled \$26.27/hour and "near," defined as 85% of that statewide living wage, was \$22.33/hour. In March of 2021, the Living Wage calculator updated its calculations for Illinois, but information presented in this guide reflects the wage levels as of January 2021, when the project team conducted its analysis.

2. U.S. Department of Labor, CareerOnestop ([careeronestop.org/explorecareers](http://careeronestop.org/explorecareers)), Illinois Department of Employment Security Virtual Labor Market Information ([www2.illinois.gov/ides](http://www2.illinois.gov/ides)), except where otherwise noted

3. Estimate derived from available data on CareerOnestop

4. Estimate derived from data published in [National Solar Jobs Census 2019](http://NationalSolarJobsCensus2019)

- AP or Dual Credit
- Dual Credit Course
- Dual Credit Course Affiliated With IAI Code
- Course or Program Prepares for Industry Credential
- Postsecondary Course Affiliated with IAI Code
- College and Career Pathway Endorsement Earned
- + If courses in this column were accomplished through early college credit, students should take the next required course in the sequence or, if none, additional AAS or Major Courses